

**ABSTRACT OF THE DISCLOSURE**

A high sensitivity and high throughput surface inspection system directs a focused beam of light at a grazing angle towards the surface to be inspected.

5 Relative motion is caused between the beam and the surface so that the beam scans a scan path covering substantially the entire surface and light scattered along the path is collected for detecting anomalies. The scan path comprises a plurality of arrays of

10 straight scan path segments. The focused beam of light illuminates an area of the surface between 5-15 microns in width and this system is capable of inspecting in excess of about 40 wafers per hour for 150 millimeter diameter wafers (6-inch wafers), in excess of about 20

15 wafers per hour for 200 millimeter diameter wafers (8-inch wafers) and in excess of about 10 wafers per hour for 300 millimeter diameter wafers (12-inch wafers).